

### **REMARKS**

Claim 1 has been amended. Support for the amendment to claim 1 is found on page 2, lines 6-7 of the specification. Claim 6 has been amended so that it properly depends on claim 1.

Claims 1, 5-7 and 10 are rejected under 35 USC 103(a) as being unpatentable over Chevreux (US 4,717,739).

Claim 1, as amended now, sets forth the composition is a hair treatment composition. This limitation breathes life and meaning to the claims, as note, *inter alia*, *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 866, 228 USPQ 90, 92 (Fed. Cir. 1985) ("Although it appears in the preambles of the '012 patent claims, the term "anaerobic" breathes life and meaning to the claims and, hence, is a necessary limitation to them.") Thus, this limitation must be taken into consideration when evaluating the prior art.

None of references cited by the examiner (Chen et al., Mori et al., and Yamamoto et al.) teach nor suggest a hair treatment composition comprising the components stated in claim 1. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

There must also be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP § 2143.

It is the object of the present invention to provide hair-treatment compositions which have high propellant gas compatibility and essentially do not show a flaking effect. They impart smoothness and suppleness to the hair (specification, pg. 4, lines 31-35). The good propellant compatibility of the polymers used in hair-treatment

compositions according to the invention is demonstrated by the n-heptane compatibility test (specification page 31, line 42 to page 32, line 2). As shown in table 4 (page 32) polymers without components c), d), and e) (=comparative example C5, page 30, table 2, line 7) and polymers without components d) and e) (=comparative example C5, page 30, table 2, line 8) show a markedly reduced n-heptane compatibility. Also shown in table 4 the polymers according to the invention (examples 9-20) have an improved elasticity and smoothness in comparison to polymers C4-C8.

Chevreux (US 4,717,739) concerns radiation curable adhesive compositions suitable for use as an adhesive for bonding glass. There is no motivation for a person of ordinary skill in the art to choose such compositions to improve a hair treatment composition.

Chen (WO97/00664) refers to an aqueous nail polish composition containing highly branched, partially crosslinked aqueous acrylic resins with difunctional acrylated urethane oligomers. As already stated by the examiner in the office action dated September 10, 2002, page 5, last paragraph, page 6, first paragraph, the critical features of a nail polish are gloss, hydrophobicity and the glass transition temperature of the composition. The critical features of the hair treatment compositions of the invention are propellant gas compatibility and the effect on the hair treated with the composition (no flaking effect, smoothness and elasticity of the hair). There is also no motivation for a person skilled in the art to choose a nail polish as starting point to improve upon a hair treatment composition.

The Mori reference (JP 213221) does not describe polymers on the basis of tert-butyl (meth)acrylate. Further, Mori does not teach to use the compounds in amounts that correspond to the compositions of the invention. So for example, Mori teaches to

use (meth)acrylate esters (component c) in an amount of from 30 to 70% by weight (and not 1 to 20% by weight, see Mori, page 2, line 10). There is also no incentive in the Yamamoto reference to modify the teaching of Mori to produce the claimed invention.

For the reasons expressed above, it is urged that the prior art references cited by the examiner either singly or in combination fail to anticipate or suggest the present invention as defined by the amended claims. Accordingly, a *prima facie* case of obviousness has not been established by the examiner, and the rejection under 35 USC § 103 should be withdrawn.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such account.

Respectfully submitted,

KEIL & WEINKAUF



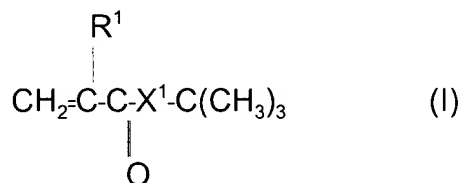
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# IN THE CLAIMS

1. (amended) A cosmetic hair treatment composition comprising at least one water-soluble or water-dispersible polymer and a cosmetic auxiliary, which wherein the polymer comprises, in copolymerized form,

- a) from 45 to 85% by weight of at least one  $\alpha,\beta$ -ethylenically unsaturated monomer of the formula I

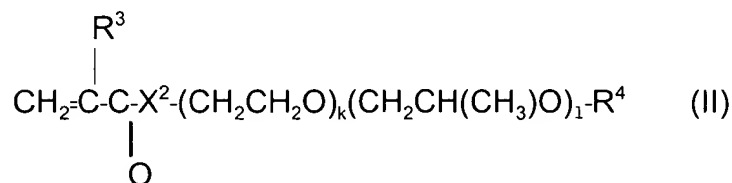


in which

$\text{R}^1$  is hydrogen or  $\text{C}_1\text{-C}_8$ -alkyl, and

$\text{X}^1$  is O or  $\text{NR}^2$ , where  $\text{R}^2$  is hydrogen,  $\text{C}_1\text{-C}_8$ -alkyl or  $\text{C}_5\text{-C}_8$ -cycloalkyl,

- b) from 10 to 30% by weight of at least one  $\alpha,\beta$ -ethylenically unsaturated mono- and/or dicarboxylic acid,
- c) from 1 to 20% by weight of at least one compound having at least one  $\alpha,\beta$ -ethylenically unsaturated double bond and at least 5 alkylene oxide units per molecule, chosen from polyether acrylates of the formula II



in which the order of the alkylene oxide units is arbitrary,

k and l independently of one another are an integer from 0 to 50, the sum

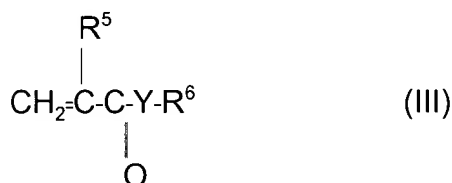
k + l being at least 5,

R<sup>3</sup> is hydrogen or C<sub>1</sub>-C<sub>8</sub>-alkyl, and

R<sup>4</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl,

X<sup>2</sup> is O or NR<sup>2</sup>, where R<sup>2</sup> is hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl or C<sub>5</sub>-C<sub>8</sub>-cycloalkyl,

- d) from 1 to 30% by weight of at least one compound having at least one α,β-ethylenically unsaturated double bond and at least one straight-chain or branched C<sub>8</sub>-C<sub>30</sub>-alkyl or -alkylene radical per molecule, chosen from compounds of the formula III



in which

R<sup>5</sup> is hydrogen or C<sub>1</sub>-C<sub>8</sub>-alkyl,

R<sup>6</sup> is a straight-chain or branched C<sub>8</sub>-C<sub>30</sub>-alkyl radical, and

Y is O or NR<sup>7</sup>, where R<sup>7</sup> is hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl or C<sub>5</sub>-C<sub>8</sub>-cycloalkyl,

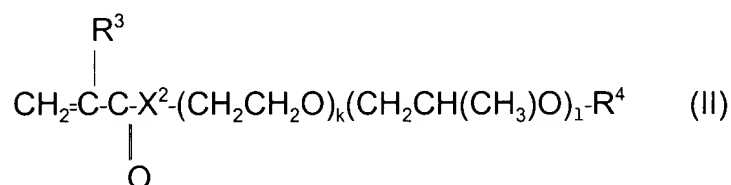
where the components c) and/or d) can be partially or completely replaced by a component e), where

- e) is at least one compound having at least one α,β-ethylenically unsaturated double bond, at least 5 alkylene oxide units and at least one

straight-chain or branched C<sub>8</sub>-C<sub>30</sub>-alkyl or -alkylene radical per molecule,

where component e) is chosen from

e1) polyether acrylates of the formula II



in which the order of the alkylene oxide units is arbitrary,

k and l independently of one another are an integer from 0 to 50, the sum

k + l being at least 5,

R<sup>3</sup> is hydrogen or C<sub>1</sub>-C<sub>8</sub>-alkyl, and

R<sup>4</sup> is C<sub>8</sub>-C<sub>30</sub>-alkyl,

X<sup>2</sup> is O or NR<sup>2</sup>, where R<sup>2</sup> is hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl or C<sub>5</sub>-C<sub>8</sub>-cycloalkyl,

e2) urethane (meth)acrylates containing alkylene oxide groups and mixtures

thereof

or the salts thereof.

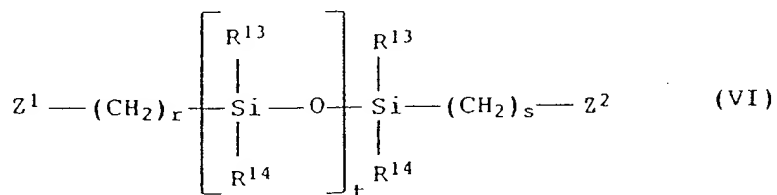
**Claims 2 - 5 (canceled).**

6. (currently amended) A composition as claimed in claim 5 1, where component e2) additionally comprises, in incorporated form, at least one component chosen from

n) compounds having a molecular weight in the range from 56 to 300 which contain

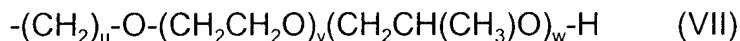
two active hydrogen atoms per molecule,

- o) polytetrahydrofurans having two active hydrogen atoms per molecule,
- p) polysiloxanes of the formula VI



in which

$R^{13}$  and  $R^{14}$  independently of one another are  $C_1$ - $C_4$ -alkyl, benzyl, phenyl or a radical of the formula VII



where

in the formula VII the order of the alkylene oxide units is arbitrary,

$u$  is an integer from 1 to 8,

$v$  and  $w$  independently of one another are an integer from 0 to 200, the sum  $v + w$  being  $> 0$ ,

$Z^1$  and  $Z^2$  independently of one another are OH,  $NHR^{15}$  or a radical of the formula VII, where  $R^{15}$  is hydrogen,  $C_1$ - $C_6$ -alkyl or  $C_5$ - $C_8$ -cycloalkyl,

$r$  and  $s$  independently of one another are from 2 to 8,

t is from 3 to 50,

and mixtures thereof.

7. (previously presented) A composition as claimed in claim 1, comprising a polymer which comprises, in copolymerized form,

- from 45 to 80% by weight, of at least one component a),
- from 15 to 28% by weight, of at least one component b),
- from 2 to 15% by weight, of at least one component c),
- from 2 to 25% by weight, of at least one component d),

where components c) and/or d) can be partially or completely replaced by a component e).

8. (previously presented) A composition as claimed in claim 1 in the form of a hair-treatment composition.

9. (previously presented) A composition as claimed in claim 1, comprising

- a) from 0.5% to 20% by weight of a water-soluble or -dispersible polymer as defined in claim 1,
- b) from 30 to 99.5% by weight, of at least one solvent chosen from water, water-miscible solvent and mixtures thereof,
- c) from 0 to 70% by weight of a propellant
- d) from 0 to 10% by weight of at least one water-soluble or -dispersible hair polymer which is different from a),
- e) from 0 to 0.3% by weight of at least one water-insoluble silicone,



f) from 0 to 1% by weight of at least one nonionic, siloxane-containing, water-soluble or -dispersible polymer.

- E1  
Contd
10. (original) Coating composition or binder for solid medicament forms or coating composition for the textile, paper, printing, leather and adhesive industries, comprising a polymer as defined in claim 1.
  11. (previously presented) A composition as claimed in claim 9, wherein component b) is from 40 to 99% by weight.
  12. (previously presented) A composition as claimed in claim 1, in the form of a hair spray.
  13. (new) The composition as claimed in claim 1, wherein the cosmetic auxiliaries are softening agents, emollients, perfumes, ultraviolet absorbers, dyes, antistatics, agents for improving combability, preservatives and antifoams.
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